

SEQUENCE LISTING

<110> The Government of the United States of America as
represented by the Secretary of the Department of Health and
Human Services

Pastan, Ira
Brinkmann, Ulrich
Vasmatzis, George
Lee, Byungkook

<120> PAGE-4, an X-Linked GAGE-Like Gene Expressed in Normal and
Neoplastic Prostate, Testis and Uterus, and Uses Therefor

<130> 4239-61541-01

<140> US 09/763,393
<141> 2001-07-30

<150> PCT/US99/20046
<151> 1999-08-31

<150> US 60/098,993
<151> 1998-09-01

<160> 16

<170> PatentIn version 3.3

<210> 1
<211> 102
<212> PRT
<213> Homo sapiens

<400> 1

Met Ser Ala Arg Val Arg Ser Arg Ser Arg Gly Arg Gly Asp Gly Gln
1 5 10 15

Glu Ala Pro Asp Val Val Ala Phe Val Ala Pro Gly Glu Ser Gln Gln
20 25 30

Glu Glu Pro Pro Thr Asp Asn Gln Asp Ile Glu Pro Gly Gln Glu Arg
35 40 45

Glu Gly Thr Pro Pro Ile Glu Glu Arg Lys Val Glu Gly Asp Cys Gln
50 55 60

Glu Met Asp Leu Glu Lys Thr Arg Ser Glu Arg Gly Asp Gly Ser Asp
65 70 75 80

Val Lys Glu Lys Thr Pro Pro Asn Pro Lys His Ala Lys Thr Lys Glu
85 90 95

Ala Gly Asp Gly Gln Pro

100

<210> 2
<211> 117
<212> PRT
<213> Homo sapiens

<400> 2

Met Ser Trp Arg Gly Arg Ser Thr Tyr Arg Pro Arg Pro Arg Arg Tyr
1 5 10 15

Val Glu Pro Pro Glu Met Ile Gly Pro Met Arg Pro Glu Gln Phe Ser
20 25 30

Asp Glu Val Glu Pro Ala Thr Pro Glu Glu Gly Glu Pro Ala Thr Gln
35 40 45

Arg Gln Asp Pro Ala Ala Gln Glu Gly Glu Asp Glu Gly Ala Ser
50 55 60

Ala Gly Gln Gly Pro Lys Pro Glu Ala Asp Ser Gln Glu Gln Gly His
65 70 75 80

Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp Gly Gln Glu Met
85 90 95

Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu Glu Glu Met Arg
100 105 110

Ser His Tyr Val Ala
115

<210> 3
<211> 116
<212> PRT
<213> Homo sapiens

<400> 3

Met Ser Trp Arg Gly Arg Ser Thr Tyr Arg Pro Arg Pro Arg Arg Tyr
1 5 10 15

Val Glu Pro Pro Glu Met Ile Gly Pro Met Arg Pro Glu Gln Phe Ser
20 25 30

Asp Glu Val Glu Pro Ala Thr Pro Glu Glu Gly Glu Pro Ala Thr Gln
35 40 45

Arg Gln Asp Pro Ala Ala Ala Gln Glu Gly Glu Asp Glu Gly Ala Ser
50 55 60

Ala Gly Gln Gly Pro Lys Pro Glu Ala His Ser Gln Glu Gln Gly His
65 70 75 80

Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp Gly Gln Glu Met
85 90 95

Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu Glu Gly Glu Lys
100 105 110

Gln Ser Gln Cys
115

<210> 4
<211> 118
<212> PRT
<213> Homo sapiens

<400> 4

Met Asn Leu Ser Arg Gly Lys Ser Thr Tyr Tyr Arg Pro Arg Pro Arg
1 5 10 15

Arg Tyr Val Gln Pro Pro Glu Val Ile Gly Pro Met Arg Pro Glu Gln
20 25 30

Phe Ser Asp Glu Val Glu Pro Ala Thr Pro Glu Glu Gly Glu Pro Ala
35 40 45

Thr Gln Arg Gln Asp Pro Ala Ala Ala Gln Glu Gly Glu Asp Glu Gly
50 55 60

Ala Ser Ala Gly Gln Gly Pro Lys Pro Glu Ala Asp Ser Gln Glu Gln
65 70 75 80

Gly His Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp Gly Gln
85 90 95

Glu Met Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu Glu Gly
100 105 110

Glu Lys Gln Ser Gln Cys
115

<210> 5
<211> 117
<212> PRT
<213> Homo sapiens

<400> 5

Met Ser Trp Arg Gly Arg Ser Thr Tyr Tyr Arg Pro Arg Pro Arg Arg
1 5 10 15

Tyr Val Gln Pro Pro Glu Met Ile Gly Pro Met Arg Pro Glu Gln Phe
20 25 30

Ser Asp Glu Val Glu Pro Ala Thr Pro Glu Glu Gly Glu Pro Ala Thr
35 40 45

Gln Arg Gln Asp Pro Ala Ala Ala Gln Glu Gly Glu Asp Glu Gly Ala
50 55 60

Ser Ala Gly Gln Gly Pro Lys Pro Glu Ala Asp Ser Gln Glu Gln Gly
65 70 75 80

His Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp Gly Gln Glu
85 90 95

Met Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu Glu Gly Glu
100 105 110

Lys Gln Ser Gln Cys
115

<210> 6
<211> 117
<212> PRT
<213> Homo sapiens

<400> 6

Met Ser Trp Arg Gly Arg Ser Thr Tyr Tyr Arg Pro Arg Pro Arg Arg
1 5 10 15

Tyr Val Gln Pro Pro Glu Val Ile Gly Pro Met Arg Pro Glu Gln Phe
20 25 30

Ser Asp Glu Val Glu Pro Ala Thr Pro Glu Glu Gly Glu Pro Ala Thr
35 40 45

Gln Arg Gln Asp Pro Ala Ala Ala Gln Glu Gly Glu Asp Glu Gly Ala
50 55 60

Ser Ala Gly Gln Gly Pro Lys Pro Glu Ala Asp Ser Gln Glu Gln Gly
65 70 75 80

His Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp Gly Gln Glu
85 90 95

Met Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu Glu Gly Glu
100 105 110

Lys Gln Ser Gln Cys
115

<210> 7
<211> 117
<212> PRT
<213> Homo sapiens

<400> 7

Met Ser Trp Arg Gly Arg Ser Thr Tyr Tyr Arg Pro Arg Pro Arg Arg
1 5 10 15

Tyr Val Gln Pro Pro Glu Val Ile Gly Pro Met Arg Pro Glu Gln Phe
20 25 30

Ser Asp Glu Val Glu Pro Ala Thr Pro Glu Glu Gly Glu Pro Ala Thr
35 40 45

Gln Arg Gln Asp Pro Ala Ala Ala Gln Glu Gly Glu Asp Glu Gly Ala
50 55 60

Ser Ala Gly Gln Gly Pro Lys Pro Glu Ala Asp Ser Gln Glu Gln Gly
65 70 75 80

His Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp Gly Gln Glu
85 90 95

Val Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu Glu Gly Glu
100 105 110

Lys Gln Ser Gln Cys
115

<210> 8
<211> 124
<212> PRT

<213> Homo sapiens

<400> 8

Met Ser Leu Glu Gln Lys Ser Gln His Cys Lys Pro Glu Glu Gly Leu
1 5 10 15

Asp Thr Gln Glu Glu Ala Leu Gly Leu Val Gly Val Gln Ala Ala Thr
20 25 30

Thr Glu Glu Gln Glu Ala Val Ser Ser Ser Ser Pro Leu Val Pro Gly
35 40 45

Thr Leu Gly Glu Val Pro Ala Ala Gly Ser Pro Gly Pro Leu Lys Ser
50 55 60

Pro Gln Gly Ala Ser Ala Ile Pro Thr Ala Ile Asp Phe Thr Leu Trp
65 70 75 80

Arg Gln Ser Ile Lys Gly Ser Ser Asn Gln Glu Glu Gly Pro Ser
85 90 95

Thr Ser Pro Asp Pro Glu Ser Val Phe Arg Ala Ala Leu Ser Lys Lys
100 105 110

Val Ala Asp Leu Ile His Phe Leu Leu Leu Lys Tyr
115 120

<210> 9

<211> 127

<212> PRT

<213> Homo sapiens

<400> 9

Met Leu Leu Gly Gln Lys Ser Gln Arg Tyr Lys Ala Glu Glu Gly Leu
1 5 10 15

Gln Ala Gln Gly Glu Ala Pro Gly Leu Met Asp Val Gln Ile Pro Thr
20 25 30

Ala Glu Glu Gln Lys Ala Ala Ser Ser Ser Ser Thr Leu Ile Met Gly
35 40 45

Thr Leu Glu Glu Val Thr Asp Ser Gly Ser Pro Ser Pro Pro Gln Ser
50 55 60

Pro Glu Gly Ala Ser Ser Ser Leu Thr Val Thr Asp Ser Thr Leu Trp

65

70

75

80

Ser Gln Ser Asp Glu Gly Ser Ser Ser Asn Glu Glu Glu Gly Pro Ser
85 90 95

Thr Ser Pro Asp Pro Ala His Leu Glu Ser Leu Phe Arg Glu Ala Leu
100 105 110

Asp Glu Lys Val Ala Glu Leu Val Arg Phe Leu Leu Arg Lys Tyr
115 120 125

<210> 10
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> PAGE1

<400> 10

Met Ser Ala Arg Val Arg Ser Arg Ser Arg Gly Arg Gly Asp Gly Gln
1 5 10 15

Glu Ala Pro Asp Val Val Ala Phe Val Ala Pro Gly Glu Ser Gln Glu
20 25 30

Glu Glu Pro Pro Thr Asp Asn Gln Gly Pro Asp Met Glu Ala Phe Gln
35 40 45

Gln Glu Leu Asp Leu Glu Lys Thr Arg Ser Glu Arg Gly Asp Gly Ser
50 55 60

Asp Val Lys Glu Lys Thr Pro Pro Asn Pro Lys His Ala Lys Thr Lys
65 70 75 80

Glu Ala Gly Asp Gly Gln Pro
85

<210> 11
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> PAGE2

<400> 11

Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn

1

5

10

15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
20 25 30

Thr Glu Glu Lys Arg Gln Gln Glu Glu Pro Pro Thr Asp Asn Gln Asp
35 40 45

Ile Glu Pro Gly Gln Glu Arg Glu Gly Thr Pro Pro Ile Glu Glu Arg
50 55 60

Lys Val Glu Gly Asp Cys Gln Glu Met Ala Leu Leu Lys Ile Glu Asp
65 70 75 80

Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr Phe
85 90 95

Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
100 105

<210> 12

<211> 79

<212> PRT

<213> Homo sapiens

<400> 12

Met Thr Ser Phe Asn Lys Thr Ala Pro Pro Ile Glu Ser Gln Asp Tyr
1 5 10 15

Thr Pro Gly Gln Glu Arg Asp Glu Gly Ala Leu Asp Phe Gln Val Pro
20 25 30

Ser Leu Ala Ala Tyr Leu Trp Glu Leu Thr Arg Pro Lys Thr Gly Gly
35 40 45

Glu Arg Gly Asp Gly Pro Asn Val Lys Gly Glu Ser Leu Pro Asn Leu
50 55 60

Glu Pro Val Lys Ile Pro Glu Ala Gly Glu Gly Gln Pro Ser Val
65 70 75

<210> 13

<211> 476

<212> DNA

<213> Homo sapiens

<400> 13

gaagaattcg ccaggctctc tgctgactca agttttcag ttcacgatct tctagttgca	60
gcgatgagtg cacgagtgag atcaagatcc agaggaagag gagatggtca ggaggctccc	120
gatgtggttg cattcgtggc tcccggtgaa tctcagcaag aggaaccacc aactgacaat	180
caggatattg aacctggaca agagagagaa ggaacacctc cgatcgaaga acgtaaagta	240
gaaggtgatt gccagggaaat ggatctggaa aagactcgga gtgagcgtgg agatggctct	300
gatgtaaaag agaagactcc acctaattcct aagcatgcta agactaaaga agcaggagat	360
gggcagccat aagtaaaaaa gaagacaagc tgaagctaca cacatggctg atgtcacatt	420
gaaaatgtga ctgaaaattt gaaaattctc tcaataaagt ttgagtttc tctgaa	476

<210> 14
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Carboxyl terminus

<400> 14

Lys Asp Glu Leu
1

<210> 15
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Carboxyl terminus

<400> 15

Arg Glu Asp Leu
1

<210> 16
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> PAGE-4 peptide used to generate antibodies

<400> 16

Glu Gly Thr Pro Pro Ile Glu Glu Arg Lys Val Glu Gly Asp Cys
1 5 10 15